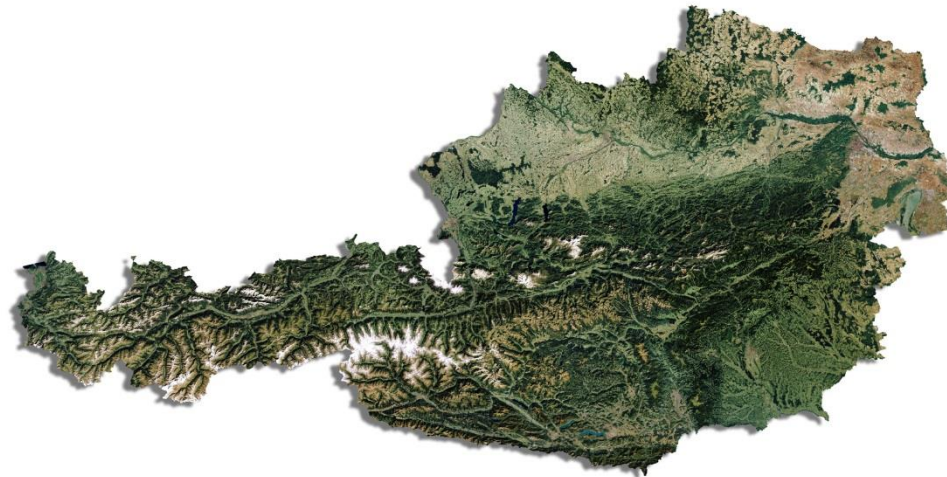


**Hans M. Steiner  
AUSTROSPACE**

**ESA Industrial Policy Day in Austria  
14.04.2015**



# AUSTROSPACE

AUSTROSPACE, the association of Austrian space industries and research institutions, is a non-profit organization focusing on:

- Provision of comprehensive information about Austrian Space activities
- Representation of common interests of Austrian suppliers and users of space technologies vis-à-vis Austrian authorities and international organizations

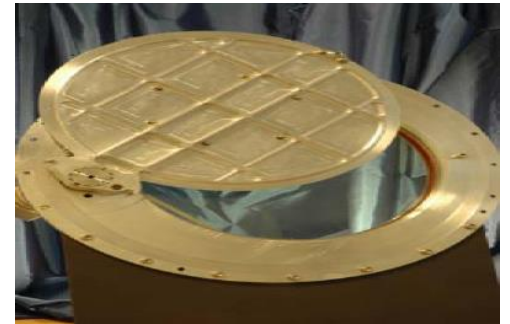
# AUSTROSPACE Members

The members of AUSTROSPACE account for the predominant part of Austrian contributions to space programs



## History of Industrial Space Activities in Austria

**1977:** Contract for development of SPACELAB-1 Viewport Adapter to Österreichische Klimatechnik GmbH (ÖKG)



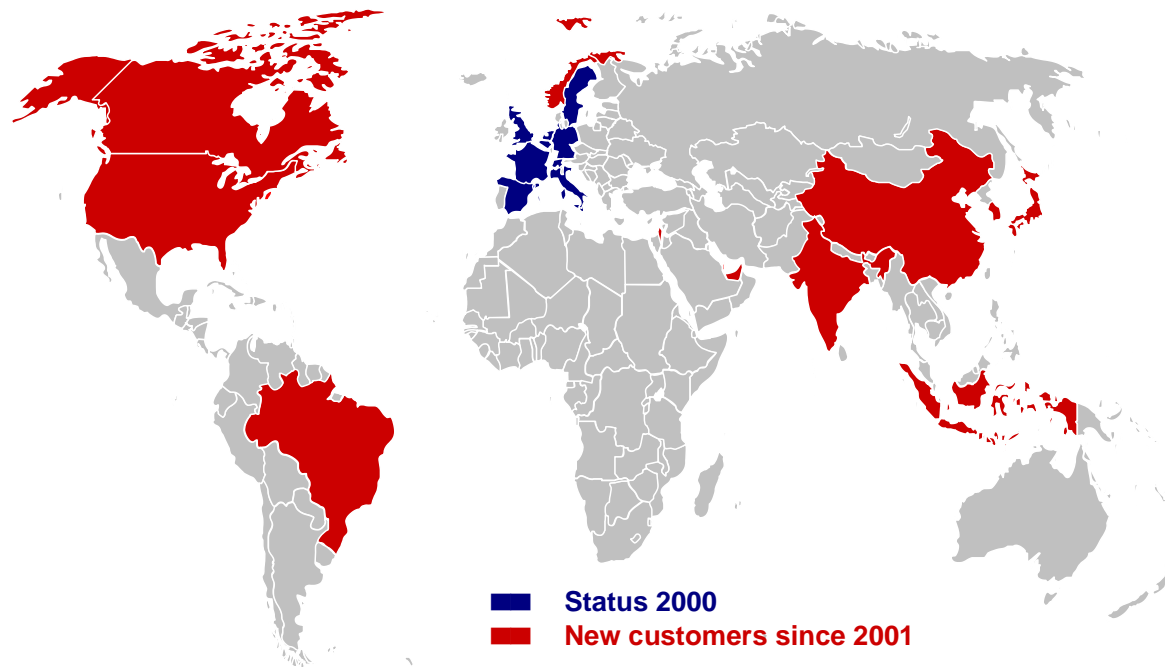
**1983:** Foundation of ORS, with first contracts in the area of Mechanical Ground Support Equipment

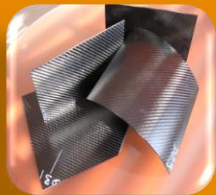
**1984:** First contract for development of Electrical Ground Support Equipment (EGSE) in the frame of the ERS-1 program to SCHRACK ELEKTRONIK AG

**1987:** Austria becomes full member of ESA

**1991:** Foundation of AUSTROSPACE

# Today's Presence on Global Space Market





## Polymer Composites

- Development of coatings, adhesives and surface modifications
- Nano composites
- Process modeling and verification of resin infusions
- Structural Health Monitoring



## Inorganic Composites

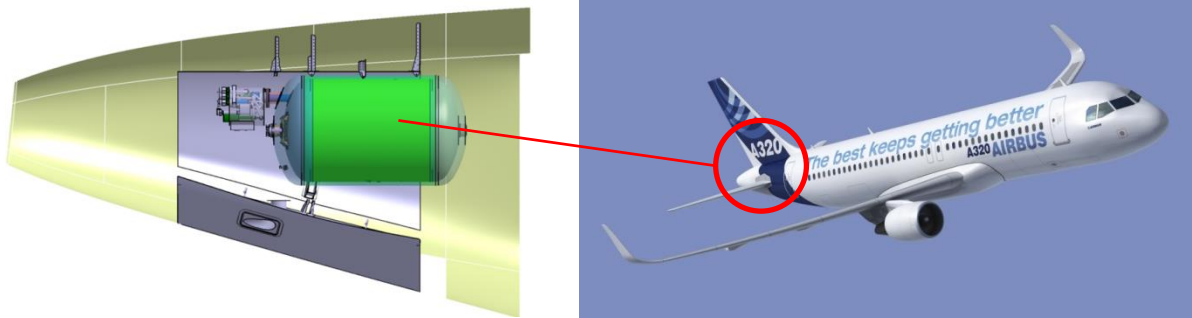
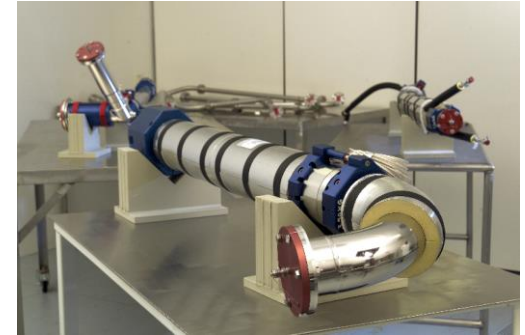
- Development of ceramic nano particles
- Functional inorganic composites and coatings
- High temperature ceramics and high Temperature testing



## Materials & Components Testhouse (for space)

- Microstructure – Material analysis and support
- Materials & Components testing for space (outgassing, CME, T-cycling)
- Mechanical properties, impact, fatigue, SCC
- Vacuum tribology

- Established Supplier of feed-lines for Ariane-5 main stage and new cryogenic upper stage
- Thermal Louvers for passive thermal protection in Rosetta mission
- Competence center for development of cryogenic subsystems for aerospace and automotive applications



**Together  
ahead. RUAG**

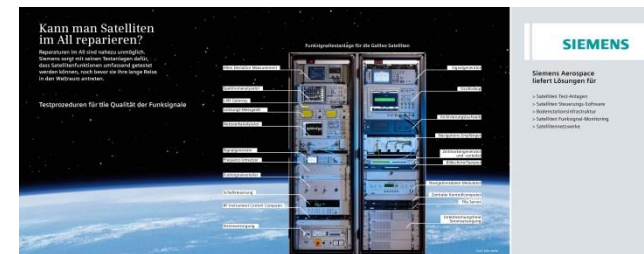
- Leading supplier of On-Board Digital Signal Processing solutions (e.g. GPS Receivers for Precise Orbit Determination)
- Well-recognized supplier of advanced mechanisms for satellites
- European market leader for Satellite Thermal Insulation Products
- Recognized supplier of Mechanical Ground Support Equipment (MGSE)





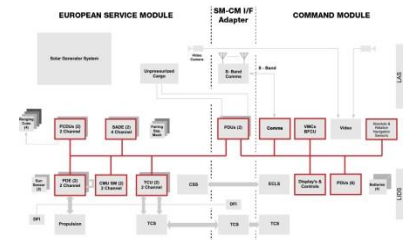
# SIEMENS

- European market leader for RF / TT&C SCOE and end-to-end solution provider for Payload, Instrument and Power EGSE infrastructure
- Leading supplier of **Satellite Communication Monitoring Solutions** with more than 30% of transponders monitored by SIECAMS, incl. Interference Localization and world's first patented EasyLineUp solution
- Well-recognized long term development partner and supplier of the Space Craft Operating System SCOS 2000

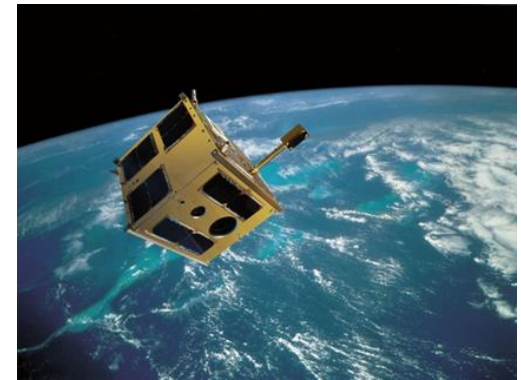


# Ensuring Reliable Networks **TTTech**

- Leading supplier of embedded networks and modular safety controls for markets where reliability and robustness are highly valued; 30% owned by Audi
- Delivering the data networking technology for NASA MPCV and upcoming launch vehicles
- Long-term partner of Audi, Vestas, Cisco, Honeywell, UTAS plus Airbus Defence & Space
- Present in Czech Republic with representative office in Brno (5 employees)



- Nano-satellite Technology
  - Design, development, operations
  - Environmental testing
- Satellite Communications
  - Advanced modulation and coding techniques
  - Software-defined radio platforms
- Ground Station Technology
  - From VHF to Ku-, Ka- and Q/V-band
  - Fixed and mobile systems
- Integrated Applications
  - Aeronautical platforms for disaster management
  - Line-of-sight and satellite communication solutions



## Further Industrial Space Activities in Austria

- Satellites
  - Micro Propulsion Systems, Ion Emitters, Nano-Satellites – **University of Applied Sciences Wiener Neustadt**
- Ground Equipment
  - Broadband interactive satellite communications systems for emergency & security applications, tele-medicine and tele-education – **Joanneum Research**
  - Satellite Navigation applications – **TeleConsult, Joanneum Research**
- Applications and Services
  - Land based Geoinformation Applications – **GeoVille**
  - Satellite based applications for environmental observation and planning - **GeoVille**
  - Geo-Spatial Applications and Earth Observation User Services – **EOX, Joanneum Research**





**Thank you for your attention !**